

performance and a degree of temperature are correlated. Furthermore, paragraph [0051] only discloses one method for determining catalyst degradation using the temperature sensor: "it is possible to determine that the reforming catalyst cannot be used more when a temperature of a reforming catalyst 2 reaches a predetermined temperature." (emphasis added). Similarly, paragraph [0047] discloses the same method for determining catalyst degradation using the temperature sensor: "... it is determined by the controller that the reforming catalyst layer 2 has been deteriorated because the temperature of the reforming catalyst layer 2 exceeds a predetermined temperature ..." Thus, Naka merely discloses comparing a catalyst temperature to a predetermined temperature.

In contrast, independent claims 2 and 20 recite "a predetermined rate" and independent claims 4 and 22 recite "a rate at which the detected temperature of the reforming catalyst rises or falls". A predetermined temperature is not a rate. Thus, Naka does not disclose or suggest the subject matter recited in independent claims 2, 4, 20 and 22.

As indicated by the Office Action, Naka discloses "the reforming rate". See paragraphs [0050] and [0051]. However, the reforming rate is "the ratio of change of methanol". The reforming rate is determined by the formula " $\{1 - [\text{CH}_3\text{OH}] / (\text{CO} + \{\text{CO}_2\} + [\text{CH}_3\text{OH}])\} * 100$ ". Thus, the reforming rate is not a rate at which the detected temperature of the reforming catalyst rises or falls, as recited in claims 4 and 22 and similarly recited in claims 2 and 20.

In view of the above, Naka does not supply the subject matter missing from Kawasumi.

The Office Action asserts that Tetsuo discloses measuring the temperature of the effluent ... and making adjustments at the inlet accordingly. Citing paragraphs [0060-0062] and [0068]. Tetsuo is directed to a system for judging the degraded condition of the reforming device by detecting the temperature of the reforming catalyst in reference to a pre-

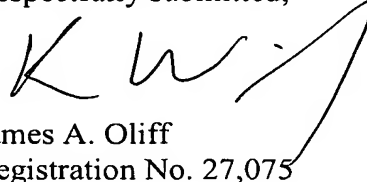
determined temperature value and reference data concerning the methane inverting rate of the reforming device. For example, the system receives a temperature measurement from any of a number of temperature sensors and compares this measurement with temperature measurements that correlate with methane invert ratios. See paragraph [0068], lines 18-27. As explained above, a temperature measurement is not a rate at which the detected temperature of the reforming catalyst rises or falls, as recited in independent claims 4 and 22 and similarly recited in independent claims 2 and 20. Thus, Tetsuo does not supply the subject matter missing from Kawasumi and Naka.

In view of the above, Kawasumi, Naka and Tetsuo, individually or in combination, do not disclose or suggest the subject matter recited in independent claims 2, 4, 20 and 22. Claims 5-9, 11, 18 and 36 ultimately depend from claim 2 and claims 23-27 ultimately depend from claim 20. Thus, Kawasumi, Naka and Tetsuo, individually or in combination, do not disclose or suggest the subject matter recited in claims 2, 4-9, 11, 18, 20, 22-27 and 36. Withdrawal of the rejection of these claims under 35 U.S.C. §103(a) is respectfully solicited.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration consideration and prompt allowance of claims 2, 4-9, 11, 18, 20, 22-27 and 36 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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